PROGRAM BUDGETING

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INTRODUCTION

Over the past several years the scope, complexity and cost of government services have increased enormously. It is the nature of government, however, that these services must be provided with resources barely equal to the task. Consequently, there is a compelling need for better techniques of budgetary decisionmaking--better means for efficiently allocating the scarce resources of government among competing objectives and service demands. One such technique, program budgeting, is now being widely introduced at all levels of government. The major features of program budgeting and some of its current applications are discussed in this paper.**

Although program budgeting is generally associated with governmental management, its fundamental approach is applicable to nearly all organizational settings, public or private. It begins with the premise that policy and budgets are inseparable, and that the relationship between budget actions and the achievement of policy objectives ought to be explicit. Program budgeting is an attempt to apply some basic principles of economics to the problem of choosing how best to allocate limited resources. That is, it embodies the principle that true economy lies in "... choosing to innovate and increase where gains are great compared with costs, choosing to pare and eliminate where

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**For a more comprehensive description of the concepts of program budgeting, see David Novick (ed.), Program Budgeting: Program Analysis and the Federal Budget, (2nd ed.; Cambridge: Harvard University Press, 1967).

costs begin to exceed benefits."* In short, program budgeting is a budgetary approach in which the following kinds of questions are paramount:

> What are the basic objectives and goals of the organization?
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> What are the alternative means for achieving these objectives?
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> What are the full present and future costs of each alternative, measured in both financial and non-financial terms?
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> What benefits will each alternative provide and how effective will each be in achieving the stated objectives?

STRUCTURAL ASPECTS

To provide the framework for posing these questions, program budgeting adds the dimension of planning to the formal budget process. Planning, of course, is the selection of objectives and the alternative means for achieving them. It connotes a concern for the future--looking ahead to see what actions must be taken today in order to meet the desired goals of tomorrow. This long-range orientation for government can be critical, for it takes ten years or more to develop a new military system, to train a public health doctor, to increase the educational level of the disadvantaged, or to construct a new interstate highways system.

Of course, all budget systems include some element of planning; budgeting is usually regarded as the process for systematically relating expenditures and resources to the accomplishment of planned objectives. In many government organizations, however, the budget emphasis is on the management and control of current operations, usually at the expense of planning. Furthermore, the annual appropriations cycle, rather than the anticipation of future objectives, tends to dictate the substance of budgeting. All financial decisions, even those with important consequences in future years, are compressed into an annual

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*Charles Schultz, "The Federal Budget: The Need for Choice," Business Horizons, Summer, 1966, p. 5.

budget process. All too often, the only decision criterion applied is, "What did we spend on this function last year?" To a disturbing extent, many government agencies, particularly at the local level, engage in almost no planning, other than that for land use and physical facilities. Where broader planning is done, it is most often kept apart from the budget process.

Program budgeting, on the other hand, attempts to place all budgetary decisions in the framework of long-range objectives. This approach requires that objectives be made explicit and that budgetary information be structured around them. Program budgeting begins with an effort to identify and define organizational objectives and to translate them into operational terms. Current organizational activities are also examined in terms of their relationship to these objectives. Common objectives and activities are then grouped into programs, which include all resources--personnel, equipment facilities, and so forth--contributing to the attainment of the specified objectives. Usually the programs contain a hierarchy of subprograms and program elements, representing different levels of objectives and different operational means for attaining them.

To illustrate, consider a major national objective of assuring adequate means of transportation. This objective might be reflected in program categories centered around such subobjectives as:

- o facilitating intercity transport
- o improving rural access
- o relieving urban traffic congestion

The subobjective of facilitating intercity transport might be further structured into program elements of:

- o construction of interstate highways
- o improvement of navigable rivers and harbors
- o expansion of traffic control facilities

The purpose of such a structure is to focus attention on the competition for resources among programs and their subdivisions and to facilitate evaluation, in terms of both their cost and outputs, of alternatives within programs. This kind of structuring, including the emphasis on the outputs of organizational activity, marks a significant departure from traditional budgets that assemble information by type of input--line terms of salaries, expenses, capital outlays--and by organization or functional categories.

Two other features of the structural aspect of program budgeting are noteworthy. Frequently, more than one agency or department contributes to a major objective. The "War on Poverty," for example, while most closely identified with the Office of Economic Opportunity, also involves some of the separately budgeted activities of the Departments of Labor, Agriculture, Housing and Urban Development, Health, Education and Welfare, and other agencies--including state and local governments. In such a situation, the program structure may cross organizational lines to pull together all of the contributing elements--and to provide the necessary visibility for making major resource allocation decisions.

Program budgeting also includes a projection of program activities, their outputs and resource requirements, over a multi-year period. This provides the critical linkage between annual budget decisions and previously designed long-range plans. In essence, the annual budget becomes the device for financing each successive year of the program plan and for translating program decisions into existing organizational patterns and management operations and methods.

ANALYTICAL ASPECTS

Reforms in the structure and flow of budgetary information is only one aspect of program budgeting. More important, perhaps, is the application of analysis to the quartet of objectives-alternatives-costs-benefits questions described earlier. Although carrying many labels, such as cost-benefit analysis or cost-effectiveness analysis, the more descriptive term for the analytical approach applied in program budgeting is systems analysis.

In a broad sense, a systems analysis is an orderly study aimed at identifying a preferred course of action from among possible alternatives. The major antecedents of the systems analysis approach are the operations research techniques developed in World War II. As applied to complex problems of choice today, however, it includes a variety of disciplines and methods, ranging from marginal economics and mathematics to the systematic collection and synthesis of expert opinion.

In its simplest form, systems analysis involves a comparison of the costs and effectiveness of decision alternatives. Attention is first given to the careful specification of the objective to be attained--is the right question being asked? The alternative means for attaining the objective are then identified. For each alternative, the full direct and indirect, present and future cost are estimated. Similar estimates are made of the extent to which the various alternatives will contribute to the specified objective. The comparison of the alternatives often involves an attempt to identify those that will minimize costs, subject to some fixed performance requirement. For example, what are the least costly means of providing vocational training for 25,000 high school dropouts annually. Conversely, the question may be one of maximizing some measure of performance for a given level of budget resources. Given an additional X millions of dollars per year, how many high school dropouts can be provided with vocational training under alternatives A, B, and C.

Although much use is made of quantitative methods in systems analysis, most complex policy decisions cannot be reduced to simple metrics of cost and performance. Attention must be given to <u>what</u> needs to be done, not only how best to do it. A program for urban redevelopment, for example, involves important questions of the value of neighborhood cohesiveness, the proximity to commercial and industrial areas, and spatial, aesthetic, and social relationships; a far easier question is the number of different kinds of dwelling units that can be constructed for a given amount of funds. Here, systems analysis becomes a blend of quantitative analysis and judgment. The comparison of the costs and effectiveness of alternatives will be subsumed in an effort to better specify objectives, to determine better

ways of evaluating performance, and most importantly, to design better alternatives. The creation of new alternatives can be much more valuable than an exhaustive comparison of the original objectives, none of which may be satisfactory.

The essence of the systems analysis approach is to build and operate within a model of the problem to be studied. The model is an abstraction of the real problem, in which is organized relevant information about the environment, principal cause-and-effect relationships, quantitative dimensions, interdependencies, and qualitative values of the problem. The model is then used to trace the conseuqences of, and compare, alternatives, test the effects of contingencies, and identify uncertainties. One of the great values of a model is that it makes explicit the assumptions and judgments which are invariably required in the analysis

Systems analysis is being used to study a wide variety of complex policy questions in government. To cite but a few examples:

(1) Comparisons of alternative modes of transportation--rail, highway, airways--in the Northeast Corridor, considering dimensions of cost, speed, community impact, safety, and so forth.

(2) Analysis of federal disease control programs, including the costs and benefits of grant programs for the early detection of specific kinds of cancer.

(3) Comparison of the returns from the several manpower training and development programs of the Office of Economic Opportunity.

(4) Analysis of the preferred mix of missile and aircraft forces for meeting the strategic military threat of the 1970s.

An important feature of the analytical approach to problem areas like these is the melding of diverse skills and professional perspectives. Public health problems look different, for example, to a medical doctor, a socialogist, an economist, or a welfare administrator. Their differing outlooks will help to assume that interdependencies are noted and may contribute powerfully to problem solutions.

The relationship between systems analysis and the structural aspect of program budgeting is a close one. The structure of programs and program elements sets the framework for the analysis, suggests some of the possible alternatives and trade-offs, and provides much of the information used. The structure is a common reference point used in presenting an analysis in the decision process and is the means for recording a decision once made. It then provides the benchmark or base case for the next set of analyses.

The purpose of systems analysis, of course, is to facilitate decisionmaking. At best, however, systems analysis can be of only partial assistance where broad and complex problems of policy are in question. Contrary to the allegations of some of its critics, systems analysis does not seek to replace the experience and intuition of decisionmakers. Rather, the role of analysis in program budgeting is one of clarifying the issues, providing relevant information and, most importantly, sharpening the judgment and intuition of those charged with policy decisions.

APPLICATIONS OF PROGRAM BUDGETING

Neither the idea of structuring government activities by programs nor the use of analysis is new. The application of program budgeting as a comprehensive approach to decisionmaking is a relatively recent occurrence, however. Its contemporary history is usually marked from 1961, when the Department of Defense instituted a planning-programming-budgeting system--or "PPBS" as it is now widely known.

In 1965, an Executive Order extended PPBS throughout the executive agencies and departments of the federal government. The Bureau of the Budget has been directing the implementation of the system, which includes such elements as: Program Memoranda, outlining the objectives, programs and alternative approaches which are behind agency requests; Program and Financial Plans, summarizing the multi-year costs and outputs for agency programs; and Special Studies, analyzing in depth certain major problems and alternative solutions. The federal PPB system also involves a complex crosswalk for translating

program requests into the format of the appropriations-oriented budget submitted to Congress.

Local governments typically face resource limitations even more severe than those at the federal level. It is not surprising, then, that nearly every major state and scores of cities, counties, and school districts are now implementing elements of a program budgeting system. Increasingly, federal grants to local government require the establishment of an analysis and planning capability to supplement traditional budgeting and management activities.

It is also interesting to note that some agencies of the United Nations and several countries, including Canada, the Federal Republic of Germany, Israel and France, have instituted some form of program budgeting.

What about non-governmental applications? At the outset of this paper it was suggested that the major features of program budgeting could be used in nearly all organizational settings. This certainly includes the world of commerce and industry. As a matter of interest, one of the first applications of a program budgeting system was at the General Motors Corporation in the 1920s. Business firms, like government, face difficult decisions in allocating resources among different product lines, capital investments, research and development projects, and so forth. The necessity for relating current budget decisions to long-range objectives and for coordinating across organizational lines is no less important in an industrial firm than in a government agency. Planning is playing an increasingly important role in private management. The pace of changing markets and technology and inter-industry competition make an extended decision horizon imperative for many firms.

CONCLUDING STATEMENT

To date, none of the major attempts at implementing program budgeting in government have been fully completed. Even in the Department of Defense experience, which spans about seven years, there remains a significant gap between theory and practice. Bureaucratic inertia, training people to do useful analyses and just plain administrative

complexity are continuing and difficult problems. One of the most frustrating problems is the paucity of program related data. How does one measure the benefits of adult remedial education when there is so little information on what has happened to the people receiving such education? Organizing financial data into program terms can be equally difficult, particularly when elements of different organizations are involved. There is also considerable uncertainty about the best way to implement a program budgeting system, which is underscored by the range of institutional approaches being taken.

Both in theory and in practice, program budgeting is far from mature; there are yet many difficult problems of concept, implementation and administration to be resolved. Even in its present incomplete state, however, program budgeting offers significant potential for greater efficiency and economy in the allocation of resources.